論　文

Contraction and Null Operator IN SITU in English*

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0. Introduction

An assumption that a null operator moves in LF component will call our attention to the question whether the null operator IN SITU is reflected in some phenomenon at the level of PF(phonetic form). This hypothesis that moves a null operator in a relative clause at LF rather than in overt syntax is proposed in Chikamatsu(1992) and called the POST FACIEM hypothesis. In this analysis, the null operator must stay in its original "grammatical function" position at s-structure. If so, it can be expected that the null operator IN SITU might be phonetically identified in some way, since S-structure is fed to PF component, "an interpretive module of sound". Here, recall that the gap in the relative clause blocks contraction. In this article, it is shown that the gap in empty- and *that*-relatives can block contraction, even if the gap is a null operator IN SITU instead of a wh-trace.

This article aims to (1)give a deeper explanation of what I call "Case stipulation" proposed by Jaeggli(1980), based on the idea of contraction as a head movement suggested in Browning(1991:Appendix), and (2), to show the reason why a null operator IN SITU blocks *wanna* contraction. There are two types of contraction which are blocked by a "gap" : i.e., *wanna* contraction and the contraction that yields the form, *-'s*. In this article only the former is considered and the discussion regarding the latter is left open here.

1. Outline of the effect

Before starting our original analysis, the outline of the effect of *wanna* contraction is illustrated in general. The expression *want+to* is contracted into *wanna*, as follows:

(1)a. Who do you want to kiss?

b. Who do you wanna kiss?(Jaeggli,1980:(3))

A trace which a moved wh-phrase left in its original position blocks this contraction, if it intervenes between *want* and *to*, as in (2):

(2)a. Who$_i$ do you want t_i to kiss you?

b.*Who do you wanna kiss you? (Jaeggli,1980:(4))

Thus *wanna* contraction seems to be applied only when *want* and *to* are adjacent to each other.

Here, a problem takes place. There is another type of empty category, PRO. PRO occurs at the embedded subject position and is controlled by (is co-referential to) the matrix subject in (1a). This is displayed in (1c) below:

(1)c. Who$_j$ do you$_i$ want [PRO$_i$ to kiss t_j]?

One type of empty category, wh-trace, blocks contraction, but another type of empty category, PRO, does not. Where does the difference come from? Let us call the problem a Problem with Contraction:A(henceforth PWC-A) here.

Further, another problem arises, if POST FACIEM is assumed. See the following pair of sentences:

(3)a. Teddy is the man I want to succeed.

b. Teddy is the man I wanna succeed.(Andrews,1978:(1))

(3a) can be paraphrased to both (4i) and (4ii):

(4) i. I want Teddy to succeed.

ii. I want to succeed Teddy.(Andrews,1978:(2))

However, the paraphrase (4i) is impossible in the case of (3b).

This observation is regarded as a result of the blocking of contraction. (3a) may have both of the following structures:

(5) i. Teddy is the man [Op$_i$[I want [t_i to succeed]

ii. Teddy is the man [Op$_i$[I$_j$ want [PRO$_j$ to succeed t_i]

(Op:null operator)

(5i) corresponds to (4i), and (5ii) corresponds to (4ii), respectively. Since in (5i) A'-trace t_i intervenes between *want* and *to*, contraction is blocked, whereas PRO does not block the contraction in (5ii). Therefore, (3b) can have only (5i) structure. It follows that it has only interpretation (4ii), which corresponds to (5i). It can be said that this explanation based on the contractibility, is an accepted analysis.

Here, let us consider this problem in interpreting (3b) in terms of POST

FACIEM. In the analysis, a null operator, Op, moves at LF. So (5) must be LF representation, and s-structures would be those in (6):

(6) i. Teddy is the man [[I want [Op to succeed]]]

ii. Teddy is the man [[I_j want [PRO_j to succeed Op]]]

Note that instead of A'-trace, the null operator, Op, intervenes between *want* and *to* in (6i). If this analysis is right, the null operator, Op, acts like A'-trace in contraction phenomenon. The problem is: Is it right for a null operator IN SITU to block the contraction, just as A'-trace.? Let us call this question a Problem with Contraction:B(henceforth PWC-B).

In the next subsection, let us survey previous analyses on *wanna*-contraction, mainly those about PWC-A.

2. Previous analyses

In this subsection previous analyses on *wanna* contraction are surveyed[1]. In the early period of trace theory, the blocking of the contraction had been used as evidence for the existence of trace of moved element(See Lightfoot,1977). On the other hand Postal and Pullum(1978; 1982) were against the trace theory, pointing out the idiosyncratic nature of *wanna*-type of contraction[2]. In defense of the trace theory, see Chomsky and Lasnik(1977). The point here is directly related to the trace vs. PRO distinction in empty category. That is, our PWC-A came to be discussed.

In the early 80's, two major solutions to PWC-A were presented. One is what I call "Case stipulation" by Jaeggli(1980) and another is what I call right-hand generation of PRO by Pesetsky(1982:Part II,1.2.).

Jaeggli(1980) hypothesizes that a case-marked gap blocks contraction, whereas a Caseless gap doesn't. With this stipulation, A'-trace is properly distinguished from PRO, since the A'-trace needs case while the PRO cannot have a case.

Pesetsky(1982) remarks on this solution, as follows:

> ...it is unclear why the PF should analyze the distinction between Case-marked categories and non-Case-marked categories.
>
> (Pesetsky,1982:Part II,1.2.)

Pesetsky's alternative is to allow PRO to appear at the right-hand side of

INFL'. According to this analysis, both of the following structures are possible:

(7)a. I want [$_S$· [$_S$ *PRO* [$_{INFL}$· to come]]]

b. I want [$_S$· [$_S$ [$_{INFL}$· to come] *PRO*]](Pesetsky,1982:Part II,1.2.)

In (7b), *want* is adjacent to *to*. Thus, *wanna* contraction is well applied to construction with PRO, in Pesetsky's analysis.

This analysis of right-hand generation of PRO is interesting, and yet it also has something weird, from our stand point. This analysis is based on the idea that a subject position is a specifier of IP(i.e.,S). It is implicitly assumed that a specifier generally occurs at the left-hand side of the head. Then this study does not adopt Pesetsky's analysis but supports "Case stipulation" and tries to explain it in terms of X° movement.

3. Contraction as X° movement

In this subsection the "Case stipulation" mentioned above is explained in terms of X° movement(i.e., head movement). Recently the theory of X° movement is being developed, and so an analysis of *wanna* contraction is influenced by the theory. Browning(1991:Appendix) suggests several ways of analyzing *wanna* contraction, where one main process in the contraction is thought to be a head movement of *to*. In this subsection I will show one possible solution to PWC-A, based on the basic idea suggested in Browning(1991:Appendix).

First, *wanna* contraction involves movement of *to*. One evidence for this assumption is coordinate structure constraint. Only one of the conjuncts cannot be moved out of a coordinate structure. See below:

(8)a. We have to read some books and some papers.

b.*Which books do we have to read [__ and some papers].

(Riemsdijk and Williams,1986:p.21)

The *wanna* contraction seems to bring the same results:

(9)*I wanna [__dance and to sing].(Postal and Pullum,1982:Table 2)

Thus there is a strong possibility that *to* moves to some position close to *want*. If *to* is a head of AGRP(agreement phrase), the contraction is a sort of X°(head) movement.

Next, consider structure of CP. In the above-mentioned analysis, two types of structures are conceivable, as Browning(1991) points out. See below:

(10)a. who$_i$ do you [$_V$*[$_V$ want]to$_j$]

[$_{CP}$ t_i [$_{C'}$ t_j' [$_{IP}$PRO[$_{I'}$ t_j [$_{VP}$ ...]]]]

b. who$_i$ do you want [$_{CP}$$t_i$ [$_{C'}$ to$_j$ [$_{IP}$PRO[$_{I'}$ t_j[$_{VP}$...]]]]]

(Browning,1991:(44))

In order to satisfy Head Movement Constraint, the *to* must stay at the complementizer position (as in (10b)) or leave its trace there(as in (10a))[3].If so, the head of CP must be empty and open, since it acts as an "escape hatch"[4].

This idea presents a difficulty, when an overt NP occurs at the embedded subject position. The embedded subject position is not governed by matrix verb, since the embedded CP becomes a barrier. It follows that an overt NP could not appear at the embedded subject position, although PRO, which cannot be governed and must be Caseless, may appear there. This is not correct, because the overt NP can appear there, too. Therefore, some Case assigning complementizer, which does not have phonetic content, must be assumed(a null counterpart of *for* complementizer).

The Case-assigning complementizer will "select" the only overt nominals because of Case filter[5]. See the following representations:

(11)a. I wanted [κ^+ [[John/*PRO] to leave]]

b. I wanted [[$_{C}$--][[*John/ PRO] to leave]].[6]

Suppose that κ^+ is Case-assigning complementizer, and that the symbol, [$_{C}$--], means the CP has no head. A'-trace also needs Case. To sum up, the following is a distribution of the complementizers in complement clauses of *want*:

(12)a. κ^+/ __ [overt NP/ A'-trace]

b. [$_{C}$--]/ __ [PRO]

The distribution of complementizers in (12) determines the applicability of contraction. According to (12a), κ^+, which co-occurs with an overt NP and A'-trace, blocks the movement of *to*, filling the head of CP. On the other hand, according to (12b), *to* can stay or leave its trace in C° position accompanied by PRO, since it has been left open. Thus, the existence of null complementizer is the reason for the blocking of the contraction.

This analysis, which is fundamentally parallel to and is based on one of those suggested in Browning(1991:Appendix), can explain PWC-A and give deeper explanation to Jaeggli's "Case stipulation". Thus, this study adopts an "escape-hatch" analysis we have just argued for.

4. *Wanna* contraction and POST FACIEM hypothesis

In this subsection, it is shown that the POST FACIEM hypothesis, the assumption that the null operator in relative constructions moves in LF component, is compatible with our "escape-hatch" analysis of *wanna* contraction. In section 1 above, the question why the null operator IN SITU blocks contraction has already been pointed out(namely, PWC-B). This section will give the solution to this problem. In the section 4.1., the analysis that the null operator has the status of *pro* is shown. In section 4.2. the mechanism that makes the null operator IN SITU block contraction at the level of SS/PF is illustrated in terms of our escape-hatch analysis.

4.1. Null operator as *pro*

Browning(1987:2.3.6.) assumes that a null operator, which is a kind of empty category that appears at the head of a chain, shares characteristics with a pronominal empty category, i.e. pro. Our research regards this idea as fundamentally right. There are four empty categories: two types of base-generated empty categories, i.e., PRO and pro, and two types of traces, i.e., NP(or A)-trace and wh(or A')-trace. Consider the next sentence:

(13)a.The oranges that generally he ate were navels.(Araki,1986:p.462)

b.SS: The oranges$_i$ [that [generally he ate Op]] were navels.

c.LF: The oranges$_i$ [Op$_i$ that [generally he ate t_i]] were navels.

According to the POST FACIEM hypothesis, a null operator, Op, is in its grammatical function position at SS(s-structure), as in (13b) and it moves to the SPEC of CP at LF, as in (13c). The operator, Op, in (13b) is governed and also Case-marked by the head of VP, *ate*. If this derivation is right, then the Op cannot be PRO, since it cannot be governed as stated in a condition called PRO theorem and cannot have any Case. Next a null operator cannot be a trace. The operator is a base-generated empty category. On the other hand, traces are created through movement. The only possibility is pro. It is a base-generated empty category which is governed and has a case. Thus, there is a strong possibility that the null operator is a pro.

4.2. Null operator and "escape-hatch" analysis

Provided that the null operator has the status of pro, then our "escape hatch" analysis can properly expect the operator will block the contraction.

Let us illustrate the coocurrence between a null operator and a Case-assigning null complementizer. First, recall the structures in (6) which are

repeated here as (14):

(14) i. Teddy is the man [[I want [Op to succeed]]]

ii. Teddy is the man [[I_j want [PRO_j to succeed Op]]]

In the representations in (14), the head of the lowest CP is unclear. Let us put a Case-assigning complementizer, κ^+, in (14) structures, tentatively:

(15) i. Teddy is the man [[I want [κ^+ [Op to succeed]]]]

ii.*Teddy is the man [[I_j want [κ^+ [PRO_j to succeed Op]]]]

In (15), κ^+ assigns Case to the embedded subject position. Note that pro is the category that is Case-marked. So (15i) is fine. Contrary to this, (15ii) must be ill-formed, since PRO which must be Caseless is assigned Case by κ^+. Next, let us remove any head from lowest C° position in structures in (14). Forms in (16) results:

(16) i.*Teddy is the man [[I want [[$_C$--] [Op to succeed]]]]

ii. Teddy is the man [[I_j want [[$_C$--] [PRO_j to succeed Op]]]]

Suppose that the lowest CP acts as a barrier for the government of the lowest SPEC of IP(i.e.,subject) by *want*. Nothing assigns Case to Op in (16i) and PRO in (16ii). The PRO in (16ii) is fine, since it needs no Case, while the Op in (16i) is ruled out, if the Op, a sort of pro, needs Case[7]. To summarize, (14i) does not correspond to (16i) but to (15i), and (14ii) does not correspond to (15ii) but to (16ii). Thus, the null operator, Op, co-occurs with the Case-assigning null complementizer, κ^+.

As shown above, complementizer position is used as an "escape hatch" for the movement of *to*, as long as it is empty and open. In the structure with the null operator, the null Case-assigning complementizer always occurs, as in (15i) and it fills the C° position. That is, the "escape hatch" for the *to*-movement is not available, whenever the null operator appears in the embedded subject position. This is how the null operator IN SITU blocks the contraction. On the other hand, any PRO co-occurs with an opened C°, and so the C° which precedes PRO always allows *to* to move properly. In this way, the distinction between Op and PRO corelates with the blocking effect of contraction.

The discussion thus far shows that if it is assumed that a null operator is a kind of pro, the null operator IN SITU is expected to block the application of *wanna* contraction, according to the "escape hatch" analysis.

5. Conclusion

This article presented the "escape hatch" analysis of *wanna* contraction and it properly expects that a null operator at the subject position of the complement clause of *want* prevents contraction rule from being applied to the infinitival marker *to*. That is to say, the "escape hatch" analysis is compatible with and supports the postulation of POST FACIEM hypothesis (namely the analysis of null operator movement in relative clause as a sort of LF movement).

Gap in null operator constructions blocks another type of contraction which yields *-'s* form, as other gaps do. As for this matter, I will discuss it at some later opportunity.

NOTES

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1. The contraction has been discussed in relation to some topics which were among popular current topics in generative grammar. In the early seventies the phenomenon of *wanna* contraction was much discussed in the context of a debate on George Lakoff's global rules. For this matter, see King(1970), Lakoff(1970; 1972), Baker and Brame(1972), etc.

2. Postal and Pullum(1987) analyze the difference between (1) and (2) in contractibility in terms of relational grammar. They propose a generalization that a rule of contraction may not be applied if the embedded subject is coreferential with matrix subject. The observation can be said to be right to a certain extent from the descriptive point of view.

3. Head Movement Constraint is something as given below:

> An X° may only move into the Y° which properly govern it.
>
> (Baker,1988:2.2.)

4. Browning(1991:(46)) shows the representation which has prepositional null complementizer. She remarks that this analysis blocks a contraction, since the compelementizer position has been filled before *to* moves there.

5. Case filter is defined, as follows:

> *NP, where NP is lexical and is not assigned Case.(Freidin,1992:Ch.5)

6. It is originally cited from Lasnik and Uriagereka(1988:ch.1.).

7 Rizzi(1986:(49)) proposes the following licensing schema:

(i) *pro* is Case-marked by X_{γ}°.

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